

ABSTRACT

A method and system for producing a transparent, electrically conductive coating onto a substrate. The method includes: (a) operating a twin-wire arc nozzle to heat and at least partially vaporize two wires of a metal composition for providing a stream of nanometer-sized vapor clusters of the metal composition into a chamber in which the substrate is disposed; (b) introducing a stream of oxygen-containing gas into the chamber to impinge upon the stream of metal vapor clusters and exothermically react therewith to produce substantially nanometer-sized metal oxide clusters; and (c) directing the metal oxide clusters to deposit onto the substrate for forming the coating.

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